

ULTRASONIC SLITTER

ABSTRACT OF THE DISCLOSURE

Apparatus for high-volume, high speed ultrasonic cutting or slitting comprising a blade having first and second cutting edges suspended from a reciprocating head, cantilevered over a conveyor supporting and advancing the food product, with the blade including first and second cutting edges on respective opposite sides thereof to cut the food product transversely. The head is preferably controlled for automated operation by an electronic controller to reciprocate transversely at a selected speed and a selected frequency within predetermined ranges over food product advancing on the conveyor. The blade preferably oscillates ultrasonically, and preferably at a frequency of approximately 20,000 Hz. The first and second cutting edges are preferably downwardly convergent, defining an included angle greater than 60 degrees and less than 90 degrees. In one particular embodiment, the internal angle is 70 degrees. In another embodiment, the angle is about 60 degrees. The blade may have a linear translating velocity of 25 to 35 inches per second, and more specifically may have a transverse velocity of approximately thirty inches per second. The apparatus may be used in high-speed, high-volume commercial food production operations for automated cutting of cheese products and other food products from large chunks, slabs and the like into smaller portions, and may also be used in other applications.